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4. Changes to Claim in compliance to rejection under

35 U.S.C. 112 :

- pilot pin is adjustable – canceled from claim.
- Pilot pin thread connected to the blade support – canceled from claim.
- drive spindle located 2 and ¼ inches above the base -canceled from claim.
- the drive spindle and pilot pin being at the same location above the base – canceled from claim.
- the "pilot" in the potatoes farthest end – revised to "potato's" farthest end in accordance with claim objection in Detailed Action 2. Line 37 ref.
- teeth of a driver on the spindle – canceled from claim
- window opening in the drive support – amended with the drawing "Replacement Sheet".
- cutting of a potato of maximum 50 count – canceled from claim.

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5. Paragraph 35 U.S.C. 112 – reviewed for content and compliance.

6. Claim rejection for insufficient antecedent basis:

Limitation "the immediate cutting edge" in lines 20-21

-removed from the claim.

Limitation "the drive spindle" in lines 11 – is in reference to the blade angle shown in Drawing 1/1 Fig. 2

7. Review of 35 U.S.C. 103(a) for content and compliance

The invention as disclosed in the specification and claim is unique in the several characteristics stated. The development of the invention was through extensive trial and error, building many prototypes and testing of components. The invention that evolved was subsequently compared in the patent search with prior art. Some components of prior art appear in the prior art of many diverse inventions, as is the case with for example a crank. The crank is not a unique characteristic of this subject

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invention. However to accomplish the manual hand rotation of the device a crank is utilized. As stated in the claim "a means for manual cranking with a crank handle" is for illustration of the operation of the invention.

Reference: "A means for manual cranking with a crank handle on the end of a threaded, American Standard Uniform Thread Form 3/8 inch 16 threads per inch spindle". The crank handle is ancillary to the described use of this thread form. This thread form was not found in the search of the prior art. The taper of this thread form in near full contact of the spindle thread with the mating drive nut of the invention creates high pressures toward disengagement of the components. This was overcome by the invention having positive pressure applied with the two handed operation, the left hand exerting downward positive pressure on the drive nut.

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Reference: "a pilot pin extending through a hole in the blade, the pilot pin being in alignment with the drive spindle centerline". The pilot pin as described in this invention is unique in its extension through a hole in the blade. Positioning in this manner puts the apex of the pilot in close proximity to the sharpened edge of the blade. Cutting of the slice thus begins instantaneous with the rotation and forward travel of the potato. This eliminates shredding or breakup of the slice at the slice edge and accumulation of a fine particulate matter on the slice and also from build-up of fine particulate matter on the blade and adjacent component parts.

Reference: "the pilot pin adjusted to contact the forward end of the drive spindle and prevent the driver teeth from contacting the blade at the end of the slice". This is unique to this

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invention as it provides a positive stop of the forward travel of the spindle.

Reference: "the drive nut guide with a drive nut assembled to it, positions the drive nut adjacent to the drive spindle". This is unique in that the drive nut is pre-positioned with this being integral to the two-handed operating method of the device. The drive nut on the drive nut guide is hand held in engagement with the drive spindle the contact of the parts being through the window opening in the drive support.

Reference: "the driver has four flat teeth of 7/16 inch length". This driver is unique in design being of thin material and being secured by a lock nut. The flat teeth penetrate the potato close to its center and provide exceptional rotational drive.

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Reference: "the base for mounting of the blade support and drive support sub-assemblies utilizes 4 rubber support legs and two metal spring-type counter stop arms to stabilize the apparatus in use", "provide a means by which the apparatus remains stationary on a counter top or table". This method of mounting by use of this combination of parts is unique to this apparatus. Prior art utilizes clamps, screws, brackets, bolts, magnets and suction cups to stabilize a variety of cutting devices. The design of kitchen countertops and tables and the varying materials (Formica, tile etc.) on which this apparatus is intended for use was the reason for development this stabilizing method. Both the designs of the component parts and their assembled location were critical to the effective stabilization achieved during operation of the apparatus.

**8. Claim Rejections- 35 USC § 103(a)**

Robb Patent 240,186 Apple Parer and Slicer April 12, 1881

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-does not indicate blades G and F are fixed.

Line 90 "the upper part of the bracket E constitutes a tubular box or bearing, E', for the shaft or axle I, the inner end of which constitutes the pointed tailpiece D, above and transversely to which is secured the cutter G, which, it will thus be seen, rotates with the tail-piece and it's shaft in operating the machine,". Line 85 "is a bracket, E, between which and the body of the frame projects the stationary slicer-knife F, which is set in a plane transversely to that of the tailpiece D and is of such length as to reach up to the shaft of said tail-piece above its cutter".

-requires mechanical clamping to stabilize.

- Robb claims "that end of shaft B which carries the fork-head F". Waller claims "the mandrel may be provided with a plurality of inwardly projecting tooth members 3a". Mason claims "a head 10 mounted thereon, and a plurality of

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prongs 11 project from the inner flat face of the head to receive the end of a potato". The subject apparatus of the invention claims "the driver has four flat teeth of 7/16 inch length" and is as unique in it's design as are the above.

- "clamps to table or other suitable support " by use of a thumb screw D and clamp C .

- utilizes non-standard thread form on threaded portion of shaft

B. Buttress threads are cut non-tapering on one side and tapered on the side opposite to accommodate latch i.

- does not produce a continuous spiral.

"Cutter G revolves and cuts the vegetable into halves before it is cut by slicing -knife F into a thin spiral shaving... having already cut into halves by cutter G the shaving or slices drop down upon the table pared and ready for use".

Ross Patent 2,464,993 SHREDDING MACHINE March 22, 1949



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- requires screws to affix to a "table top or the like" for stabilization of the machine.
- thread stem 22 has Acme Threads, 4 threads per inch and taper enlarged radially 33 at the crank end. The stem engager element 27 disengages as a function of the taper of the thread.
- this machine is a device for shredding and stringing potatoes and does not produce a continuous spiral slice.

Waller Patent 2,156,645 Culinary Device May 2, 1939

- Fig.1 Item2 shows only a single adjustable spring clip means (2) to provide for mounting the device on a suitable support 10, such as a table, bread board or the like. This single spring clip 2 is shown as gripping beneath the support (table or bread board) during operation. The spring clip 2 is not functioning in the same manner as the counter stops of the apparatus of the invention. This spring clip is a clamp as is the alternate 60' shown with a thumbscrew in Fig. 13.

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- Fig. 1 Item 5 the shaft shown threaded at handle 6 for handle mounting but not threaded for the function of advancing forward with the cutting action of the device. The crank in this fixed location is rotateable only.

Mason Patent 2,489,581 Combination Potato Slicer and  
Collector Nov. 29, 1949

- Blade 2 to core and slice with the core somewhat in excess of the thickness of the collecting pin 4. This blade in Mason "is preferably arranged at a slight angle to a transverse plane, as shown, the angle corresponding substantially to the angle of the thread" also "the cutting edge lying substantially in the vertical center plane of the screw". The blade functions to cut the potato and "the inclined position of the blade allows the body of the potato to freely ride against the front face thereof, while the slice is deflected by the rear face of the blade to enter upon the pin 4". Mason

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202 blade is not angled at 20 degrees, as is the blade in the claim for the apparatus of the invention.

- screw 3 is threaded with acme type threads
- Head 10 mounted on screw 3 has a plurality of prongs 11 which project from the inner flat face of the head.

Mason Patent 3,211,202 Potato Peeling and Cutting Machine

Oct. 12, 1965

- Fig. 2 is an elevational view of the apparatus shown in Fig. 1 substantially as seen in the plane of 2-2 thereof;
- This Fig. 2 illustration as well as Fig. 3 illustration shows tapered supports for the device which are neither numbered nor identified as to material. Paragraph 3 states "the present apparatus is particularly suitable for use in restaurants or like places" which may imply a table or counter top, such tapered supports for protection of the surface. The apparatus of Mason 202 is a motor driven device, which has

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all the operational forces of the device excepting vibration captured within the unit. No clamping or restraining of the unit appears needed.

- With the subject Spiral Slice Potato Cutter the four rubber support legs 9 in conjunction with the spring-type counter stop arms 14 have as their primary function the means for an operator to hold the device in a stable and fixed position on a table or counter top; avoiding the need for clamps, suction cups or other specialized parts to stabilize the apparatus in use.

Continued examination is respectfully requested per this

Response to DETAILED ACTION per 37 CFR 1.114

## **CLAIMS**

**What I claim is:**

**1. (Currently amended)**

**The invention is a manual apparatus for use by an operator to slice a potato into a uniformly thin continuous spiral slice, the slice for frying as a potato chip with the apparatus requiring both hands to operate to safely cut the potato slice, with both hands being away from the sharp blade and the rotating driver teeth during cutting and comprising:**

**a fixed vertical blade attached to a blade support, the blade support being attached to ~~[[a]]~~ the base, and the blade angled horizontally 20 degrees from perpendicular to the centerline of the drive spindle with the blade sharpened on one side for cutting;**

**~~an adjustable~~ a pilot pin extending through a hole in the blade, the pilot pin being in alignment with the drive spindle centerline and secured in its ~~adjusted~~ position by**

**a lock nut, the farthest end of the pilot pin being thread-  
connected to the blade support and the nearest end of the  
pilot pin functioning to support and position a potato at  
the immediate-cutting edge of the blade, and with the  
pilot pin adjusted to contact the forward end of the drive  
spindle and prevent the driver teeth from contacting the  
blade at the end of the slice;**

**a drive support which is attached to the base, serves as a  
means for positioning the drive spindle, with the  
centerline of the drive spindle being located 2 and 1/4-  
inches above the base and is the same centerline location  
above the base as that of the pilot pin;**

**a means for manual cranking with a crank handle on the  
end of a threaded, American Standard Uniform Thread  
Form 3/8 inch 16 threads per inch spindle, in a clockwise  
direction, rotating a potato engaged by the teeth of a-  
driver on the spindle end which engages the nearest end  
of the potato, and the potato supported by a pilot in the**

~~potatoes~~ potato's farthest end, and which produces a rotation of said potato and longitudinal motion in a forward direction with the potato contacting ~~[[a]]~~ the fixed blade to produce a continuous spiral slice approximating .0625 inch thickness;

a drive nut guide with a drive nut assembled to it, positions the drive nut adjacent to the drive spindle and ~~applied~~ applies manual pressure on the drive nut, engages the drive nut threads to the drive spindle threads through a window opening in the drive support, causing forward motion of the rotating drive spindle, the drive spindle being assembled internal to the drive support;

~~[[a]]~~ the driver ~~with~~ has four flat teeth of 7/16 inch length and is assembled at the forward end of the drive spindle and secured by a lock nut, the driver penetrates a potato and transfers the forward and rotary motion of the the hand cranked drive spindle to the potato thus forcing it into the sharp edge of the cutting blade;

**[[a]] the base for mounting of the blade support and drive support sub-assemblies utilizes four rubber support legs and two metal ~~spring-type~~ spring-type counter stop arms to stabilize the apparatus in use on a table or counter top and during use of the apparatus the support legs and counter stops provide a means by which the apparatus remains stationary on a counter top or table with downward left hand pressure and forward right hand cranking pressure during cutting of a potato ~~of maximum size 50 count, such average size approximating 6 and 1/2 inches length and 3 and 1/2 inches diameter and requiring significant torque to accomplish the spiral slice cut, and avoiding the use of clamps or suction cup devices for the apparatus to remain in a stationary position and additionally the counterstop arms prevent the crank from contacting the counter top or table on which it is positioned as the apparatus nears the end of a cut.~~**





FIG. 1

1- Added LOCK NUT 15

2- Added TEETH

3- Added WINDOW OPENING

FIG 2

1 Added view to show Window Opening, Drive Nut 10, Drive Nut Guide 11, 20 Degrees was 15 to 25

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**TITLE: SPIRAL SLICE POTATO CUTTER**

**INVENTOR: WHITE, JAMES ALFRED**

